

PUBLIC UTILITIES COMMISSION

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January 14, 2016

SUBJECT: CPUC / DOGGR / Cal-OSHA Safety Review on Methane Capture System

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To Southern California Gas Company (SoCalGas):

The CPUC, DOGGR, and Cal-OSHA jointly request additional information on the methane capture system. Please respond by January 19, 2016 to the following questions. Please feel free to contact me with any questions.

Data Request 1/14/16

1. SoCalGas should provide support to demonstrate stability of soil around the well head to minimize additional strain on the surface casing.
2. SoCalGas must demonstrate that the design is electrically and intrinsically safe.
3. SoCalGas should agree to fabricate the system as much as possible then lowered into place as opposed to assembling in place.
4. SoCalGas must demonstrate that they will continue to keep well head supported (blowout prevention).
5. SoCalGas must continue to monitor methane explosive limits and ensure that the methane capture system does not subject workers to methane explosive limits.
6. There are some differences between the John Zink P&ID and the Fluor Process Flow Diagram.
 - a. Does John Zink represent the Phase I and Fluor represent Phase II?
 - b. Will Phase I be operated, or is this just a construction phase?
 - c. Secondary – If the John Zink design is to be operated, is there a blower in the line besides the one at the incinerator?
7. Oxygen sensors – these are very important to the safety of the system. Will they will be able to operate in oily mist, if the design without the knockout drum is to be deployed first? Even with the knockout drum, sensors before the knockout drum have the same problem.
8. In the drawing 25-SK-001, the electric motors for the Capture Gas Blowers, if not rated as intrinsically safe or explosion proof type motors, could be potential


sources of ignition. In the event of failure of the oxygen analyzers, AE 251 and AE 252 and oxygen entrainment, the methane gas could get into the flammable range. Rating for explosion proof type electric motors for the Capture Gas Blowers, 25-BL-1 and 25-BL-2 should be considered. This will be considered as the second line of process hazard safety.

9. Per drawing 25-SK-001, the PI-252 and/or FI-252 should have feedback loops to the controllers (XL-251) of the motor of 25-BL-1 to obtain optimal operational condition for either the Capture Gas Oxidizers or the Carbon Capture Packages. Similarly, PI-253 and/or FI-253 should have feedback loops to the controllers (XL-252) of the motor of 25-BL-2 to obtain optimal operational condition for either the Capture Gas Oxidizers or the Carbon Capture Packages. The feedback loops will also help the process staying within emission limits as proposed in Document no. 25-PD-0001.
10. In the John Zink's drawing number HPE CS-150, I don't see any oxygen analyzer/monitor at the inlet vapor line. In event that oxygen gets entrained in the inlet vapor line (whatever reasons), there should be an interlock to shut down the blower and gas will be allowed to bypass the vapor blower BL-101. The vapor by-pass line is apparently already present in the drawing. Valve HCV-101 and M-101 should be electronically communicated with the Oxygen analyzer/monitor system in order to shut down the vapor blower and allow the bypass of gas, in event of oxygen entrainment, which may bring the methane gas into the flammable range.
11. In addition, the electric motor for the blower BL-101 should be considered to be rated for an explosion proof type electric motor as well in event that oxygen is entrained in the inlet vapor line and the oxygen analyzer/monitor fails.
12. Process procedures should be identified, starting from collecting gas from the collection nozzle(s) to either the Capture Gas Oxidizer or Carbon Capture Packages. Procedures should include different procedures and equipment used at different scenarios, e.g. when to send gas to gas oxidizers and when to send to carbon capture packages, oxygen monitoring, interlocking the blowers et...
13. Safety inspection program and procedures are needed for process equipment including safety instruments, e.g. oxygen monitors/analyzers, interlock system, and inspection frequency etc. during operation. How are they going to ensure that functionality and accuracy of the oxygen sensors and oxygen analyzer during operation?
14. There might be confined space entry issues with maintaining the knockout drum. This should be evaluated and plans and protocol procedures established for installing and changing out the demister inside the knock-out drum V-193, if confined space conditions exist.
15. Any damage to the pipeline will introduce air to the system, which could be catastrophic. Does the pipe need some protection from vehicles, etc... anywhere along its path?
16. While the gas incineration process appears well designed, the gas capture at the wellhead area is NOT fully designed and needs further work and analysis. They acknowledged this to Scott in prior conversations. To make analysis of the safety of the capture system we think anyone doing such evaluation would need the complete design schematics. That needs to include detailed construction

and installation information on the pipe bridge and nozzle, the nozzle flow diversion, the flange connection to the pipes that go down the west side hill, and the anchoring of the 36" pipe down the west side hill.

17. Piping in the wellhead area is also a concern. How it is installed, where is to be laid in relation to other components around the well, how it is to be connected to the rest of the system. While they have said they will work with Scott to address his concerns, I imagine anyone else would want those details described.
18. How will the 36" pipe/nozzle on the bridge across the vent be secured to prevent movement, considering that the gas flow in the vent could cause nozzle torque or vibration?
19. How will the 36" pipes running down the west side hill be secured in the event of a large rain, that could erode the hillside and the pipe support?
20. How will the incineration areas and pipes be protected from rain induced slides or debris or lightning, or from truck/car impacts?
21. Has Boots & Coots done an independent risk analysis? If yes, please provide those results.

Sincerely,



Kenneth Bruno
Program Manager – Safety and Enforcement Division
California Public Utilities Commission